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The new CROSS Cryogenic Underground (C2U) facility: an overview.

We present the CROSS (Cryogenic Rare-event Observatory with Surface Sensitivity) Cryogenic *U*nderground (C2U) facility installed at the Laboratorio Subterráneo de Canfranc (Spain). It consists of a low-radioactivity, pulse-tube-cooled dilution refrigerator where scintillating macro-bolometers are run and read out via low-noise room-temperature electronics, to study the neutrino-less double-beta decay of ^{100}Mo , ^{130}Te or ^{116}Cd .

Since the commissioning (mid-2019), we performed three long-living runs (up to 5 months duration), operating several detectors which reported superior performances in terms of stability, running duty-cycle and energy resolutions. The C2U facility is about to be upgraded with a) an extension of the present internal/external shielding, b) the installation of an anti-radon system, c) a muon veto.

Mini-abstract

The CROSS C2U facility is presented. We ran successfully bolometers for $0\nu 2\beta$ studies.

Experiment/Collaboration

CROSS/LSC

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